

REMARKS

The Applicants have reviewed the Examiner's Office Action dated February 7, 2005. The Applicants hereby provide the following remarks concerning the Examiner's rejection of the claims under 35 U.S.C. 103(a).

The Examiner has rejected claims 1-6 and 8 under 35 U.S.C. 103(a) as being unpatentable over Graham et al. (U.S. Patent No. 4,811,230) in view of D'Hooge et al. (U.S. Patent No. 6,636,354 B1).

As to claim 1, the Examiner asserts that Graham teaches a method of selecting, displaying, and reconfiguring display configurations on an avionics display in an avionics system on an aircraft for different phases of flight comprising the steps of:

selecting a prestored climb display configuration for display on the avionics display with climb quick access pushbutton on a cursor control panel when the aircraft is in a climb phase of flight (pushing control knob to change the altitude of the airplane, e.g., col. 3 lines 21-30, col. 9 line 60-col. 10 line 39);

reconfiguring the prestored climb display configuration into a new climb display configuration with controls on the cursor control panel and on the avionics display (e.g., col. 10, lines 3-53);

selecting a prestored cruise display configuration for display on the avionics display with a cruise access pushbutton on the cursor control panel when the aircraft changes to a cruise phase of flight (e.g., col. 10 lines 1-53 and col. 11 lines 1-22); and

selecting a prestored descend display configuration for display on the avionics display with a descend quick access pushbutton on the cursor control panel when the aircraft changes to descend phase of flight (e.g., col. 10 lines 1-53, col. 11 lines 1-22, and col. 14 lines 48-61);

The Examiner then states that although Graham teaches pressing climb quick access pushbutton for storing the new configuration (e.g., col. 10 lines 40-53), Graham does not clearly show that pressing a pushbutton for a period of time. The Examiner further states that D'Hooge clearly shows that the user may press and hold the switch button for an extended period of time to indicate that the

feature is desired (e.g., col. 9 line 66-col. 10 line 3). The Examiner believes that it would have been obvious at the time of the invention, a person with ordinary skill in the art would want to have the pressing button for a period of time of D'Hooge in the Flight Management System of Graham to ease the user to distinguish between a normal or a desired selection which the user really wants to operate.

The Examiner is wrong in asserting that Graham teaches a method of selecting, displaying, and reconfiguring display configurations on an avionics display for different phases of flight. Graham mentions an avionics display (cockpit display unit and primary flight display) but does not teach an avionics display with prestored configurations on the display for different phases of flight that are selected by the pilot as disclosed by the Applicants and does not disclose reconfiguring the prestored configuration on the avionics display. What Graham does disclose is an Intervention Flight Management System (IFMS) that allows a pilot to intervene in the operation of a preprogrammed flight management computer to change speed, flight path, or altitude. The referenced columns and lines cited by the Examiner for selecting a prestored climb display configuration merely disclose changing altitude with an altitude control knob and showing the desired altitude on an altitude display. By the Examiner's own admission pushing the control knob changes the altitude of the airplane. This pushing of the control knob does not select a prestored climb display configuration as disclosed by the Applicants. The Examiner asserts that in col. 10 lines 3-53 reconfiguring the prestored climb display configuration is disclosed. The Applicants fail to see any such disclosure. The Examiner asserts that in col. 10 lines 1-53 and col. 11 lines 1-22, a cruise quick access pushbutton is disclosed for selecting a cruise phase of flight. The Examiner is respectfully asked to reread the referenced lines and columns. From this the Examiner will find that there is no cruise quick access pushbutton to select a cruise display configuration on the avionics display. Likewise, the referenced columns and lines by the Examiner do not disclose a descend quick access pushbutton for selecting a descend avionics display configuration. Only the knob for selecting altitude is disclosed, which by the Examiner's own admission merely changes altitude of the aircraft.

Graham has nothing to do with selecting prestored climb, cruise, and decent display configurations on the avionics display and reconfiguring the avionics display. There is no mention whatsoever of climb, cruise, and descend avionics display configurations in Graham. Claim 1 is allowable over Graham in view of D'Hooge since neither reference individually or in combination discloses the Applicants' invention.

As to claim 2, the Examiner asserts that Graham teaches the method of claim 1 further comprising the steps of:

reconfiguring the prestored cruise display configuration into a new cruise display configuration with controls on the cursor control panel and the avionics display (e.g., col. 10 lines 1-53, col. 11 lines 1-22, and col. 14 lines 48-61); and

pressing the cruise quick access pushbutton for a period of time to store the new cruise display configuration (e.g., col. 10 lines 1-53, col. 11 lines 1-22).

As discussed in the remarks for claim 1 Graham does not teach the method of claim 1 for displaying, selecting, and reconfiguring an avionics display and furthermore does not teach the method of claim 2. The Examiner is respectfully asked to show where in the cited columns and lines Graham discloses an avionics display that displays prestored display configurations for different phases of flight that are selected and reconfigured by a pilot using climb, cruise, and descend quick access pushbuttons. Claim 2 is allowable over Graham.

As to claim 3, the Examiner asserts that Graham in view of D'Hooge teaches the method of claim 1 further comprising the steps of:

reconfiguring the prestored descend display configuration into a new descend display configuration with controls on the cursor control panel and the avionics display (e.g., col. 14 lines 48-61); and

pressing the descend quick access pushbutton for a period of time to store the new descend display configuration (e.g., col. 10 lines 1-53, col. 11 lines 1-22, and col. 14 lines 48-61).

Graham in view of D'Hooge does not teach the method of claim 1 and furthermore does not teach the method of claim 3. Col. 14 lines 48-61 mention entering speed and altitude via the CDU but there is no mention whatsoever of

changing the avionics display configuration on the CDU with a descend quick access pushbutton. Claim 3 is allowable over Graham in view of D'Hooge since neither reference individually or in combination discloses the Applicants' invention.

As to claim 4, the Examiner asserts that Graham teaches the method of claim 1 further comprising the steps of selecting the new climb display configuration on the avionics display with the climb quick access pushbutton on the cursor control panel (e.g., col. 3 lines 21-30, col. 9 line 60-col. 10 line 39).

As previously discussed in the remarks for claim 1 Graham does not teach the method of claim 1 and furthermore does not teach selecting a new display configuration on the avionics display with the climb quick access pushbutton since Graham has no such pushbutton. Column 3 lines 21-30 describe changing altitude with an altitude control knob and showing the desired altitude on a suitable display. This is not changing the display configuration of the avionics display as claimed by the Applicants. Claim 4 is allowable over Graham.

As to claim 5, the Examiner asserts Graham in view of D'Hooge teaches a method of selecting, displaying, and reconfiguring display configurations on an avionics display in an avionics system on an aircraft for different phases of flight of the aircraft comprising the steps of:

selecting prestored display configurations for display on the avionics display with quick access pushbuttons on a cursor control panel in accordance with the aircraft phase of flight (e.g., col. 3 lines 21-30, col. 9 line 60-col. 10 line 39);

reconfiguring the prestored display configuration into new display configurations with controls on the cursor control panel and the avionics display (e.g., col. 3 lines 21-30); and

pressing the climb quick access pushbutton for a period of time to store the new climb display configuration (e.g., col. 10 lines 1-53, col. 11 lines 1-22, and col. 14 lines 48-61).

Graham in view of D'Hooge does not teach a method of selecting, displaying, reconfiguring display configurations on an avionics display as previously discussed. Claim 5 is allowable over Graham in view of D'Hooge.

As to claim 6, the Examiner asserts that Graham teaches the method of claim 5 for selecting, displaying, and reconfiguring avionics display configurations in an avionics system wherein the step of selecting prestored display configurations on the avionics display with quick access pushbuttons further comprising the steps of:

selecting a prestored climb display configuration for display on the avionics display with a climb quick access pushbutton on the cursor control panel when the aircraft is in a climb phase of flight (e.g., col. 3 lines 21-30, col. 9 line 60-col. 10 line 39;

selecting a prestored cruise display configuration for display on the avionics display with a cruise quick access pushbutton on the cursor control panel when the aircraft changes to a cruise phase of flight; and selecting a prestored descend display configuration for display on the avionics display with a descend quick access pushbutton on the cursor control panel when the aircraft changes to a descend phase of flight (e.g., col. 10 lines 1-53, col. 11 lines 1-22, and col. 14 lines 48-61).

As previously discussed Graham does not teach selecting, displaying, and reconfiguring avionics display configurations and furthermore does not teach selecting a prestored climb display configuration, a prestored cruise display configuration, or prestored descend display configuration. There is no mention of avionics display configurations or quick access climb, cruise, and descend pushbuttons in Graham. The referenced columns and lines merely disclose changing altitude in the IFMS and showing the selected altitude on a suitable display. There is no mention whatsoever of climb, cruise, and descend avionics display configurations in Graham. Claim 6 is allowable.

As to claim 8, the Examiner asserts that Graham teaches an avionics system having displays with display configurations pilot-selected for a phase of flight of an aircraft and reconfigurable for each phase of flight comprising:

a flight display for storing and displaying stored phase of flight display configurations for each phase of flight of the aircraft (e.g., col. 6 line 66-col. 7 line 37); and

a cursor control panel connected to the flight display for changing from one stored phase of flight display configuration to another stored phase of flight display configuration when selected by the pilot for a phase of flight and for reconfiguring the display configuration for each phase of flight (e.g., col. 6 line 66-col. 7 line 37, and col. 3 lines 21-30, col. 9 line 60-col. 10 line 39).

The Examiner is wrong in the assertion that Graham teaches an avionics system with display configurations pilot-selected for a phase of flight of an aircraft and reconfigurable for each phase of flight. The Examiner states that col. 6 line 66 to col. 7 line 37 disclose a flight display for storing and displaying stored phase of flight configurations. The Examiner is respectfully asked to reread these lines. The Applicants fail to find any reference in these lines to an avionics flight display. A primary flight display (PFD) is mentioned in col. 11 lines 48-49 and a cockpit display unit (CDU) is mentioned in col. 14 line 7 and line 47. However, there is no mention of either of these avionics displays having display configurations pilot-selected for a phase of flight of an aircraft and reconfigurable for each phase of flight using quick access pushbuttons. Claim 8 is allowable over Graham.

The Examiner has rejected claims 7, and 9-14 under 35 U.S.C. 103(a) as being unpatentable over Graham et al. (U.S. patent no. 4,811,230) in view of D'Hooge et al. (U.S. Patent No. 6,636,354 B1), and further in view of Briffe et al. (U.S. Patent No. 6,112,141).

As to claim 7, the Examiner asserts that the modified of Graham in view of D'Hooge teaches the method of claim 6 wherein each of the steps of selecting the climb phase of flight configuration, the cruise phase of flight configuration, and descend phase of flight configuration are selected (e.g. col. 10 lines 3-55); however, Graham in view of D'Hooge does not show a middle window display configuration from the group consisting of a checklist index, a flight management system text, and a vertical terrain profile and a lower window display configuration from the group consisting of a present position, plan, datalink, charts, traffic, and maintenance formats. The Examiner further states that Briffe clearly teaches the in fig. 21 that the middle window 556 shows the checklist such as NORM, WET, DRY, etc. and the lower window 552 shows position at 18000 FT.

As previously discussed, Graham in view of D'Hooge does not teach the method of claim 6, therefore Graham in view of D'Hooge and further in view of Briffe does not make claim 7 unpatentable. Claim 7 is allowable.

As to claim 9, the Examiner asserts that the modified system of Graham in view of Briffe teaches the avionics system of claim 8 wherein the flight display further comprises:

a middle window for displaying a pilot-selectable display configuration; a lower window for displaying a pilot selectable display configuration; and line select keys for selecting the middle window and lower window display configuration (fig. 2-3, 6-7, e.g., col. 10 lines 1-53, col. 11 lines 1-22, and Briffe, fig.21)

Regarding claim 9, the Examiner's assertion that the modified system of Graham in view of Briffe teaches the avionics system of claim 8 is incorrect. The Examiner has not cited Briffe in the rejection of claim 8. Nevertheless, as previously discussed, Graham does not disclose the Applicants' invention either individually or in combination with D'Hooge or Briffe. Claim 9 is allowable over Graham, D'Hooge, and Briffe.

As to claim 10, the Examiner asserts that Graham teaches the avionics system of claim 9 wherein the cursor control panel further comprises phase of flight quick access pushbuttons for selecting a stored phase of configuration into a new phase of flight configuration by selecting the new configuration with controls on the cursor control panel and pressing a phase of flight quick access pushbutton for a predetermined time to store the new configuration (col. 10 lines 1-53, col. 11 lines 1-22, and col. 14 lines 48-61).

Graham does not teach the avionics system of claim 9 as previously discussed and further does not teach the limitations of claim 10 since Graham does not have stored phase of flight avionics display configurations. The column and line references cited by the Examiner do not address stored phase of flight avionics display configurations or phase of flight quick access pushbuttons. Claim 10 is allowable.

As to claim 11, the Examiner asserts that Graham teaches the avionics system of claim 10 wherein the cursor control panel further comprises:

a climb quick access pushbutton for selecting a climb phase of flight display configuration and for reconfiguring the climb phase of flight display configuration (e.g., col. 3 lines 21-30, col. 9 line 60-col. 10 line 39);

a cruise quick access pushbutton for selecting a cruise phase of flight display configuration and for reconfiguring the cruise phase of flight display configuration; and a descend quick access pushbutton for selecting a descend phase of flight display configuration and for reconfiguring the descend phase of flight display configuration (e.g., col. 10 lines 1-53, col. 11 line 1-22, and col. 14 lines 48-61).

As previously discussed Graham does not teach the avionics system of claim 10 and further does not disclose a climb quick access pushbutton as asserted by the Examiner. The referenced lines and columns disclose an altitude control knob for setting altitude in the IFMS. This clearly is not a pushbutton for selecting a climb phase of flight configuration on an avionics display as previously discussed. There is no mention of a cruise quick access pushbutton in the lines and columns the Examiner has cited. The only reference is again to the altitude control knob. The Examiner is now apparently asserting that the altitude control knob is a climb quick access pushbutton, a cruise quick access pushbutton, and a descend quick assess pushbutton. Graham does not disclose any of these pushbuttons. Claim 11 is allowable.

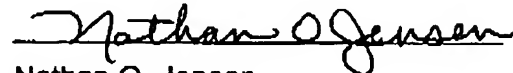
As to claims 12-14, the Examiner has rejected them under similar rationale as claim 7. The Examiner notes the rejection of claim 7 above.

As to claim 12-14, these claims are allowable for the same rationale as claim 7 and all other claims. Graham simply does not disclose an avionics display that has selectable prestored avionics display configurations for climb, cruise, and descent and further does not disclose reconfiguring these prestored configurations with phase of flight pushbuttons. Graham, D'Hooge, and Briffe do not individually or in combination disclose, suggest, or make obvious the Applicants' invention.

CONCLUSION

It is believed that the application is in a condition for allowance. In light of the foregoing, reconsideration of the claims is hereby requested, and a Notice of Allowance is earnestly solicited.

Respectfully submitted,



Nathan O. Jensen
Attorney for Applicants
Reg. No. 41,460

Rockwell Collins, Inc.
Intellectual Property Department
400 Collins Road NE M/S 124-323
Cedar Rapids, IA 52498
Telephone: (319) 295-1184
Facsimile: (319) 295-8777
Customer No. 26383